Kingdom of Saudi Arabia
Ministry of Education
University of Bisha
College of Medicine

المملكة العربية السعودية
وزارة التعليم
جامعة بيشة
كلية الطب

Study Guide

(Male Section)

Man and His Environment

MEV-221

Academic Year (1442-1443/2021-2022)

1. List of content:

2. Welcome Message

Welcome to ‘‘Man and His Environment’’ course at the College of Medicine, University of Bisha. I hope you will enjoy this five weeks course. Get involved in every activity of the course and you will acquire knowledge. Learning is based on the concept that the student is responsible for his learning and he is able to do that.

A timetable indicates where and when the course activities take place throughout the weeks and will be available before the beginning of the course. We aim to provide an innovative way of teaching and to lead an attractive learning journey.

Essentially all organs and tissues of the body perform functions that help maintain a constant condition. For instance, the lungs provide oxygen to the extracellular fluid to replenish the oxygen used by the cells, the kidneys maintain constant ion concentrations and removal of waste products and the gastrointestinal system provides nutrients.

This course is concerned with the manner in which each organ or tissue contributes to homeostasis. In this course an attempt is made to explain the specific characteristics and mechanisms of the human body that make it a living being. The very fact that we remain alive is almost beyond our control, for hunger makes us seek food and fear makes us seek refuge. Sensations of cold make us look for warmth. Other forces cause us to seek fellowship and to reproduce. Thus, the human being is actually an automaton, and the fact that we are sensing, feeling, and knowledgeable beings is part of this automatic sequence of life, these special attributes allow us to exist under widely varying conditions in equilibrium with our surroundings.

3. Course Identification

Institution	University of Bisha
College	College of Medicine
Course title	Man and his Environment
Course Code	MEV-221
Course type	Required [√] Elective [√]
Program	Bachelor of Medicine and Bachelor of Surgery (MB,BS)
Phase/Level/Year at which this course is offered	**1/2/4**
Semester/Course Position	**2/1**
Department/Unit	Basic Medical Sciences/Physiology (Multidisciplinary)
Credit hours	5 (4+1)
Course duration	**5** weeks
Contact hours	**108** (72+ 36)
Actual Learning Hours	**234** (180 + 54)
Teaching Strategies	Student center, Problem Based Learning, Problem Solving and Clinical Skills teaching
Pre-requisites for this course	Intensive English Program-Health Science-1

	Learning and thinking Skills Islamic Culture Communication Skills Biomedical Science-1 Intensive English Program-Health Science- 2 Biostatistics Language Skills Computer Skills Biomedical Science- 2
Co- requisites for this course	None
Location	College of Medicine (Engineering and medical college campus)
Course Coordinator	Dr. Adamu Imam Isa (aiisa@ub.edu.sa)
Course Co-coordinator	Dr. Nahid Ahmed (nahid@ub.edu.sa)

4. Course Objectives and Learning Outcomes

4.1. Course Description

Man and His Environment is a broad field that encompasses many disciplines and is the second block in Semester II., Year II . This block mainly deals with the inter and intracellular environment, and body's response to internal and external insults.

The primary method of education in the block is Problem based Learning (PBL). The students will approach the learning issues based on theoretical case studies, in small groups consisting of 05 to 07. Each group will be supervised by a tutor who only acts as a facilitator.

This is an interdisciplinary block; the resource Faculty for the block is drawn from various participating disciplines of the college. These include Anatomy, Histology, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology and Community Medicine

4.2. Course Main Objective

This course deals with the study of man in relation to his environment, both internal and external, and the interaction between him and this environment as well as the study of the conditions and diseases resulting from or aggravated by this interaction.

5. Course Learning Outcomes

CLOs	
1	**Knowledge:**
1.1	Describe the structure and functions of the cell, the basic concepts of internal physiologic activities, body fluids and acid-base balance
1.2	Explain the structural and functional organization of the nervous and the digestive systems
1.3	Describe the pathophysiological responses to infection, autoimmunity and stress
1.4	Explain basic pharmacological concept, drugs acting on gastrointestinal system, the autonomic nervous system and the skin
1.5	Explain the principles of epidemiology, biological spectrum of environmental diseases, endemic and epidemic diseases.
1.6	Explain the impact of environment on health and health

	consequences of exposure to potential environmental hazards (physical, chemical and biological)
2	**Skills :**
2.1	Use technology, information systems and communication devices that support his learning and medical practice
2.2	Interpret laboratory investigations demonstrating skills to perform the necessary calculations where necessary
2.3	Assess patients with disorders due internal and external environmental changes
3	**Values:**
3.1	Collaborate effectively with teams, using interpersonal, leadership and problem-solving skills to influence and guide others toward goals

6. Course Content

Theme	S. No.	List of Topics
1	1	Cell: Structure
	2	Function of Pinocytosis and Phagocytosis
	3	Cell membrane
	4	Resting Membrane Potential
	5	Action Potential
	6	Methods of drugs administration

	7	Pharmacokinetic
2	8	Homeostasis regulation
	9	Body fluid compartments, Composition and Functions
	10	Homeostasis and Homeostatic imbalance
	11	Acid-base balance
	12	Buffers
	13	Pharmacodynamics and pharmacogenetics
	14	Introduction to Power Lab
3	15	Structural and functional aspects of GIT
	16	General Principles of GIT Functions
	17	Drugs that affect intestinal motility
	18	Anti-diarrheal drugs
	19	Diarrhea
	20	Liver functions
4	21	Conduction velocity
	22	Homeostasis: Neural regulation ,Receptors hypothalamus, Neuroendocrine role
	23	Autonomic nervous system (ANS): Adrenaline, Acetylcholine and neurotransmitters
	24	Adrenergic drugs
	25	Cholinergic drugs
	26	Control of Body Functions (neuronal and Hormonal)

	27	Psychological Manifestations of diseases
5	28	Structure and role of skin in homeostasis
	29	Role of olfaction and taste in nutrition.
	30	Role of vision and audition in equilibrium
	31	Visual acuity
	32	Color vision
	33	Audiometry
	34	Field of vision
6	35	Environmental and physical factors and their effects on the human body: heat, cold and low oxygen
	36	Epidemiological factors
	37	Transmission of disease; Endemic, Epidemic, Pandemic
	38	Epidemiological research
	39	Occupational disease

7. Specific Learning Outcomes of the Course in alignment to the SaudiMED Framework:

	Scientific Approach to Practice	Patient care	Community oriented practice	Communication and collaboration	Professionalism	Research and scholarship
1. Define the tiny specialized structures (organelles) of the human cell: cell membrane, cytoplasm, nucleus, nucleolus, nuclear membrane, nucleoplasm, mitochondria, microtubules, Golgi complex, lysosome, ribosome, endoplasmic reticulum, microtubules, microvilli, centriole, vacuole, microfilament, vesicles	✓					
2. Describe the cell organelles						
3. Identify the cell and its organelles						
4. Classify human cells according to their functions	√					
	√					
5. Outline pinocytosis and phagocytosis	√					
6. ~~List the functions of pinocytosis and phagocytosis~~			✓			
7. ~~Explain the functions of pinocytosis and phagocytosis~~			✓			
8. ~~Describe in detail the basic electron microscopic structure~~ of the cell membrane.			✓		✓	
9. Describe the arrangement of proteins in the cell membrane.						
10. Outline the functions and the methods of transport system across the membrane						✓
11. Describe diffusion, facilitated diffusion, primary and secondary active transport, cotransport and counter transport with examples						✓
12. ~~Describe the sodium potassium voltage gated channels.~~				✓		
13. Define resting membrane potential	✓					
14. Describe Resting membrane potential	✓					
15. Explain the ionic changes across cell membranes in development of resting membrane potential	✓					
16. Explain Nernst equation	✓					
17. Define action potential	✓					

18. Explain the ionic changes across cell membranes in development of action potentials	✓					
19. Explain the propagation of action potential	√ √	✓				
20. Describe the stages of action potential	√	✓				
21. Explain the importance of proteins and phospholipids in the cell membrane, the lipid bilayer and the protein channel		✓				
22. Explain the structure and functions of biological membranes	✓	✓				
23. Define homeostasis.	√ √	✓				
24. Explain the concept of homeostasis and its consequences on the human body		✓				
25. Explain the positive and negative feedback mechanisms of homeostasis	✓	✓				
26. List the various body fluid compartments.	√ √	✓				
27. Define intracellular fluid (ICF), extracellular fluid (ECF), extravascular, intravascular, interstitial, transcellular and lymphatic fluids and their volumes.		✓				
28. Explain the impact of homeostasis and its consequences on the human body.	✓	✓				
29. Outline the functions of body fluids – transport of nutrients, respiratory gases, hormones, enzymes and waste products.	✓	✓				
30. Explain the mechanism of formation of edema.	√ √	✓				
31. Explain the principles of concentration gradient, water soluble and lipid soluble substances, cell size, defense and exchange of substances.		✓				
32. Explain the hydrostatic pressure – colloid and	✓	✓				

crystalloid osmotic pressures and their importance in kidney, lung and other tissues						
33. Outline the functions of body electrolyte	√ √	✓				
34. Outline the disturbances of volume and concentration of body fluids						
35. Describe drug distribution in different body compartments and redistribution	✓					
36. Demonstrate determination of albumin, inulin for estimation in different compartments – ICF and ECF.	✓					
37. Describe drug administration as a component of safe and effective health care	✓	✓				
38. Explain the proper methods to administer enteral, topical and parenteral drugs.	✓	✓				
39. Compare the advantages and disadvantages of each	✓	✓				

route of drug administration						
40. Explain the importance of enterohepatic recirculation to drug therapy and the first pass effect	✓	✓				
41. Define acids, bases and pH	✓	✓				
42. Explain weak and strong acids	✓	✓				
43. Classify buffers.	✓	✓				
44. Describe the composition of buffers	✓					
45. Explain the Henderson-Hasselbalch equation	✓	✓				
46. Describe the buffer systems of human body.	✓					
47. Explain the buffer mechanisms in the body.	✓	✓				
48. Explain acid base imbalance	✓	✓				
49. Describe the types of acid base	✓	✓				

disturbances (imbalance) with examples of each class.						
50. Explain the importance of anion gap	✓	✓				
51. Identify the major hardware and software components of the LabTutor system	✓	✓				
52. Perform recording of basic finger-pulse signals in LabTutor	✓					
53. Identify some of the annotation and analysis features in the LabTutor software	✓	✓				
54. Define Pharmacodynamics and pharmacogenetics	✓					
55. Discuss how pharmacodynamics focuses on what the drug do to the body and different mechanisms by means of which these effects can be produced.	✓	✓				
56. Describe how drugs activate specific receptors to produce a response, drug-response curve.	✓	✓				
57. Explain how blockers of drug action work, especially chemical antagonist, physiological antagonist and pharmacological antagonist	✓	✓				
58. Enumerate different types of drug adverse effects and toxic effects on human body.	✓	✓				
59. Define Pharmacokinetics	√ √	✓				
60. Describe absorption, distribution, metabolism and excretion of the drug		✓				
61. Compare between 1st order kinetic and zero order	✓	✓				

kinetic with examples.						
62. Describe the general plan of organization of GIT	✓					

63. Outline the functional role of each part and basic structure and functional relationship of all organs of the GIT.	✓					
64. Explain the basic histological structures particularly cells of various types comprising the glands.	✓	✓				
65. Explain the basic histological layers of GIT mucosa, submucosa, muscularis and serosa	✓	✓				
66. Describe an overview of the gastrointestinal hormones	✓	✓				
67. Describe the general principles of gastrointestinal motility and secretion		✓				
68. List the four classes of drugs that is clinically used on gastrointestinal motility	✓	✓				
69. Describe in brief the role of prokinetic drugs for clinical treatment of gastric stasis and for diagnostic technique	✓	✓				
70. Describe the different antispasmodic drugs mode of action, clinical uses and most important adverse effects	✓	✓				
71. Describe the different groups of products that are commonly used in constipation their mode of action, clinical use and side effects.	✓	✓				
72. Outline the divisions of autonomic nervous system supplying small intestine	✓					
73. Identify the types of receptors in the small intestine	√ √	✓				
74. List the classes of drugs that increase intestinal motility		✓				
75. List the classes of drugs that decrease intestinal motility	✓					
76. Identify the site of action of each class	√	✓				
77. Demonstrate on a diagram how the blockers play an important role in		✓				

determining the site of drug action.						
78. Explain the different types of diarrhea	√	✓				
79. List drug therapy for diarrhea including fluid therapy	✓	✓				
80. Discuss in brief specific treatment and symptomatic therapy for different types of diarrhea	✓	✓				
81. Describe the pharmacotherapy opioid-like anti- motility drugs, antimicrobial drugs and stool modifier adsorbent and their role in controlling diarrhea	✓					

82. Enumerate the antiamoebic and anti-giardiasis in brief and their role in controlling amoebic dysentery and diarrhea caused by giardiasis	✓					
83. Describe the normal motility of the intestine	✓					
84. Explain the mechanism and control of intestinal motility	✓	✓				
85. List the causes of abnormal motility of the intestine	✓	✓				
86. Define the normal bacterial flora.	√ √					

87. Describe the causative factors of diarrhea - socioeconomic, community and environmental.		✓				
88. Explain the different types of diarrhea.	√ √	✓				
89. Explain specific treatment, symptomatic treatment–antimotility, adsorbent, absorbent and antispasmodics.		✓				
90. Outline the drugs used for symptomatic treatment of diarrhea	✓					
91. Define terminologies of abnormal conditions like dehydration, hypernatremia and hypokalemia	✓	✓				

92. List liver functions	✓					
93. Explain liver functions	√ √					
94. Describe the general and functional organization of nervous system.		✓				
95. Outline the division of the nervous system	√ √					
96. Describe the central nervous system						
97. Describe the peripheral nervous system	√					
98. Describe the autonomic nervous system	√ √	✓				
99. List the functions of the nervous system						
100. Explain conduction velocity.	√ √					
101. Perform experiments to calculate conduction velocity of nerves.		✓				
102. Explain the neural mechanism – concept of receptors, molecular and sensory.	✓					
103. Define sensory pathway	√ √					
104. Describe the Pathways of somatosensory system						
105. Describe the Pathways of viscerosensory system	✓	✓				
106. Describe the role of the hypothalamus – in hunger and food intake	✓	✓				
107. Describe the hypothalamus and its role in homeostasis (temperature, osmolarity, fluid volume, fluid intake and pH)	✓					
108. Outline the synthesis and storage of ADH	√					
109. Outline the vasopressin receptors	✓					

110. Explain the mechanism of action of ADH (positive & negative feedback)	✓	✓				
111. Outline the actions of ADH	√	✓				

112. Outline factors regulating ADH secretion	√ √	✓				
113. Outline the synthesis and storage of ADH	√					
114. Explain various visceral reflexes & their role in homeostasis.		✓				
115. Explain the limbic system in relation to emotional responses.	✓	✓				
116. Define sensory receptors, sensory pathways and the general plan of ANS and functional levels of CNS.	✓					
117. Define autonomic neuropathy	√ √	✓				
118. Outline the mechanism, pathology and clinical presentation of autonomic neuropathy		✓				
119. Outline the two primary division of nervous system.	✓					
120. Compare and contrast the actions of sympathetic and parasympathetic nervous systems.	✓					
121. Identify the neurotransmitters important to autonomic nervous system (ANS).	✓					
122. Explain how the body responds to stress	√	✓				
123. Describe the role of nervous and hormonal systems in homeostasis	✓	✓				
124. Identify the two primary division of nervous system.	✓	✓				
125. Identify the neurotransmitters important to autonomic nervous system (ANS).	✓	✓				
126. Compare and contrast the types of effects that occur when a drug stimulate alpha and beta adrenergic receptors	✓	✓				
127. Explain how the adrenergic drugs are primarily used for their effects on the heart, bronchial tree and nasal passage.	✓	✓				
128. Describe the gross and histological	✓	✓				

structure of the skin.						
129. Explain the structural and functional aspects of skin homeostasis or response to external environment	✓	✓				
130. Outline the various types of cutaneous receptors.	✓	✓				
131. Define peripheral neuropathy	✓					
132. Outline peripheral neuropathy- pathology, clinical presentation and management	✓					
133. Describe how drugs in different topical forms are absorbed through the skin.	✓	✓				
134. List the most important dermatological products used to treat various skin disorder	✓	✓				
135. Explain the principle of photo chemotherapy for	✓					

different dermatological diseases						
136. List the functions of the skin	√	✓				
137. Explain the cutaneous circulation	√ √	✓				
138. Outline the characteristic feature of cutaneous circulation						
139. Explain the regulation of cutaneous blood flow		✓				
140. Outline the cutaneous vascular responses	√ √ √					
141. Explain the role of olfaction in nutrition.		✓				
142. Explain the role of taste in nutrition						
143. Outline different types of taste	√					
144. Describe the taste pathway	√ √	✓				
145. Describe the olfactory pathway						
146. Outline the Principles of optics	✓					
147. Explain the mechanism involve in Processing and transmission of visual impulse in retina	✓					
148. Explain the mechanism involve in	✓					

Processing and transmission of visual impulse in visual Pathway						
149. Explain the mechanism involve in Processing and analysis of visual impulse in the visual cortex	✓	✓				
150. Describe the auditory pathways	✓	✓				
151. Outline the roles of the external and middle ear in the conduction of sound waves	✓	✓				
152. Describe the process of transduction of sound waves	✓	✓				
153. Outline the neural transmission of sound signal	√	✓				
154. Define of visual acuity.	√	✓				
155. Explain the importance of determining distant and near vision.	✓					
156. Preform experiment on distant and near vision		✓				
157. List the factors that affect visual acuity?	√ √ √	✓				
158. Name the errors of refraction and how they are corrected.		✓				
159. List the receptors of color vision.	✓	✓				
160. Perform Ishihara test on a subject.	√	✓				
161. List some other tests of color vision	√	✓				
162. Explain the practical importance of color vision.	√ √	✓				
163. Explain the importance of doing hearing tests in clinical physiology.		✓				
164. Conduct experiment on hearing tests	√					
165. Define sound, and name its characteristics that are perceived by the ear.	✓					
166. Describe the principle underlying tuning-fork tests.	✓					
167. Differentiate between air (ossicular) conduction and bone-conduction.	✓	✓				
168. Describe the principle of audiometry.	✓					
169. Describe cochlear implants	√	✓				

170. Define field of vision and physiological blind spot.	✓					

171. Determine the field of vision in a subject and describe its extent in various meridians.	✓	✓				
172. Identify the printed perimeter chart.	√	✓				
	√ √	✓				
173. List the factors that affect the field of vision. 174. Trace the visual pathway and name the effects of		✓				
lesions at different places.						
175. Explain the effects of heat and heat exhaustion.	✓	✓				
176. Describe adaptation to cold environment and adaptive changes in body upon prolonged exposure to extreme cold.	✓	✓				

177. Explain the process of acclimatization to low partial pressure of oxygen.	✓	✓				
178. Explain effects of low oxygen pressure on the body	✓	✓				
179. Explain the clinical consequences of exposure to abnormal temperatures and low oxygen partial pressure	✓	✓				
180. Outline the management of diseases resulted from abnormal temperatures and low oxygen partial pressure	✓	✓				
181. Describe mechanism of transmission of disease	√ √	✓				
182. Define horizontal transmission: Human to human – direct contact, indirect contact, nonhuman to human – soil, water sources, animal, directly, Via insect vector, environment.		✓				
183. Define vertical transmission.	√ √	✓				

184. Explain the role of environment in disease occurrence (endemic, epidemic & pandemic), distribution and frequency of disease		✓				
185. Describe the agent host environment triad and relation to disease occurrence.	✓	✓				
186. Explain disease transmission, incubation and latent periods.	✓	✓				
187. Describe investigation and management of epidemics and levels of disease prevention.	✓	✓				
188. Describe methods of epidemiological research.	√ √	✓				
189. Explain methodology, construction & interpretation of epidemic curve.		✓				
190. Explain the relationship of occupation and its effect on health using work environment of hospital, cement and agriculture industry for illustration.	✓	✓				
191. Describe working in oil refineries and related industry as an occupational hazard.	✓	✓				
192. Describe occupational respiratory diseases	✓	✓				
193. Describe effects of oil spills and environmental pollution caused by industrial smoke on entire cities	✓	✓				
and communities.						

194. Compare and contrast the types of effects that occur when a drug stimulate muscarinic and nicotinic receptors explaining molecular mechanism of such effects	✓	✓				
195. Explain how cholinergic drugs have few therapeutic uses because of their numerous adverse effects	✓	✓				
196. Describe acute and chronic toxicity of organophosphorus compounds, explaining etiological factors, manifestation of	✓	✓				

poisoning and drug therapy of such poisoning						
197. Describe how the cholinergic blockers are mainly used to treat dry secretion and to treat bronchial asthma	✓	✓				

8 *Time table (Male)*

Week (1)						
Day	Times					
	Period 1	Period 2		12:00 to 13:00	Period 3	
	8:00 to 8.50 9.00 to 9.50	10:00-10.50	11 to 11:50		13:00 to 13:50 14:00-14:50	
Sunday 16/01/2022	Introduction for 15 min **Dr. Isa** ***PBL-01*** **(1st Session)** **Dr. Ayman leader, Dr. Ali E, Dr.** **Ammar, Dr. Elhadi and Dr. Jaber**	Cell Membrane *IL-01* **Dr. Isa**	**SDL**	Break	Transport across cell membrane *IL-02* **Dr. Sameer**	Pinocytosis and Phagocytosis *IL-03* **Dr. Sameer**
Monday 17/01/2022	Cell and its organelles *TBL-01* **Dr. Elwathiq**	Resting membrane potential *IL-04* **Dr. Jeelani**	**Introduction to Behavioral Sciences** ***IL-01*** **(online)** **Dr. Reda**		Action potential *IL-05* **Dr. Isa**	Cell Membrane *IL-09* **Dr. Rabia**
Tuesday 18/01/2022	Demonstration of Measurement of pH Power lab 01 **Dr. Hanan B**	**PBL-01** **(1st Session)** **(onsite)** **Male section (Unit)** **Female section (unit)**			Introduction to power lab Power Lab 02 Male group 1 **Dr.Isa/Dr. Nahid**	
Wednesday	***PBL-01*** **(2nd Session)**	Introduction to power lab Power Lab 02			Acids, bases and buffers	Acid base balance and

19/01/2022	**Dr. Ayman leader, Dr. Ali E, Dr. Ammar, Dr. Elhadi and Dr. Jaber**	Male group 2 **Dr. Isa/Dr. Nahid**	*IL-07* **Prof. Muzaffar**	imbalance *IL-08* **Dr. Vijaya**
Thursday 20/01/2022	Demonstration of Dosage forms Power Lab-03 **Dr. Osama**	Demonstration of body fluid compartments measurement Power Lab-04 **Dr. Ohaj**	Homeostasis *IL-06* **Dr. Jeelani**	General Principles of GIT Functions *IL-10* **Dr. Isa**

Week (2)					
Day	Times				
	Period 1	Period 2		12:00 to 13:00	Period 3
	8:00 to 8.50 9.00 to 9.50	10:00-10.50	11 to 11:50		13:00 to 13:50 14:00-14:50
Sunday 23/01/2022	***PBL-02*** **(1st Session)** **Dr. Jeelani Leader, Dr. Elnahriri, Prof. Nabih, Dr. Ohaj and Dr. Shahazadah**	GIT structure and functional relationship *IL-11* **Dr. Adel**	Neural Mechanism, receptors *IL-12* **Dr. Isa**	Break	Conduction velocity Power Lab 05 Male G 1 **Dr. Jeelani/Dr. Nahid**
Monday 24/01/2022	Sensory pathways *TBL-02* **Dr. Isa**	Demonstration of Sources of Drugs Power Lab-06 **Dr. Osama**	**Intelligence** ***IL-02*** **Dr. Reda**		Visceral Reflexes *IL-13* **Dr. Nahid** / Autonomic neuropathy *IL-14* **Dr. Reda**

Tuesday 25/01/2022	**ANS** *Seminar_01* **Dr. Sameer** **440805934 Basil Eid H Alosaimi** **441800700 Emad Abdullah S Alshehri**		***PBL-01*** **(2nd Session)** **(onsite)** **Dr. Jeelani Leader, Dr. Elnahriri, Prof. Nabih, Dr. Ohaj and Dr. Shahazadah**		Demonstration of route of drugs administration Power Lab-07 **Dr. Osama**
Wednesday 26/01/2022	***PBL-02*** **(2nd Session)** **Dr. Jeelani Leader, Dr. Elnahriri, Prof. Nabih, Dr. Ohaj and Dr. Shahazadah**		Role of Hypothalamus in homeostasis *IL-15* **Dr. Jeelani**	Vision *IL-16* **Dr. Sameer**	**Mentoring and Portfolio**
Thursday 27/01/2022	Sympathetic Agonist *IL-17* **Dr. Osama**	Sympathetic Agonist *IL-18* **Dr. Osama**	Pharmacokinetics 2 *IL-19* **Prof. Nabih**	Pharmacokinetics 1 *IL-20* **Prof. Nabih**	Conduction velocity Power Lab 05 Male G 2 **Dr. Isa/Dr.Jelani**

Week (3)						
Day	Times					
	Period 1	Period 2		12:00 to 13:00	Period 3	
	8:00 to 8.50 9.00 to 9.50	10:00-10.50 to 11:50	11		13:00 to 13:50 14:00-14:50	
Sunday 30/01/2022	***PBL-03*** **(1st Session)** **Prof. Muzaffar**	Intestinal Motility *IL-21* **Dr. Nahid**	Limbic System and Physiology of Emotions	Break	Pharmacodynamics and pharmacogenetics *IL-23*	Pharmacodynamics and pharmacogenetics *IL-24*

	Leader, Dr. Sameer, Dr. Abdulelah, Dr. Yousef, Dr. Shihab		*IL-22* **Dr. Nahid**		**Dr. Osama**	**Dr. Osama**
Monday 31/01/2022	Liver Functions *TBL-03* **Dr. Sameer**	Organization of nervous system *IL-25* **Dr. Hany**	**Language *IL-03* (online) Dr. Nahid**		Sympathetic Antagonist *IL-26* **Dr. Osama**	Sympathetic Antagonist *IL-27* **Dr. Osama**
Tuesday 01/02/2022	Structure of the skin *Seminar 02* **Dr. Asad 441800724 Faisal Saeed H Alghamdi 440800274 Fayez Saeed J Alhazri Alaklabi**	**Memory *TBL-01* (onsite) Dr. Samir Dr. Nahid**			***PBL-03* (2nd Session) Prof. Muzaffar Leader, Dr. Sameer, Dr. Abdulelah, Dr. Yousef, Dr. Shihab**	
Wednesday 02/02/2022	Prolonged weekend				Prolonged weekend	
Thursday 03/02/2022						

Week (4)		
Day	Times	

	Period 1	Period 2		12:00 to 13:00	P eriod 3	
	8:00 to 8.50 9.00 to 9.50	10:00-10.50 11 to 11:50			13:00 to 13:50 14:00-14:50	
Sunday 06/02/2022	**Mid-course Exam**	Visual acuity and colour vision Power Lab 08 **Dr. Jeelani**		Break	***PBL-04*** **(1st Session)** **Dr. Ali E Leader, Dr. Ammar, Dr. Elnahriri and Dr. Jaber and Dr. Karimeldeen**	
Monday 07/02/2022	Taste and olfaction *TBL-04* **Dr. Sameer**	Audition *IL-28* **Dr. Sameer**	**Motivation & Emotion *IL-04* (online) Dr. Samir**		Peripheral neuropathy *IL-29* **Prof. Lukman**	Functions of the skin *IL-30* **Dr. Nahid**
Tuesday 08/02/2022	ADH, hormonal secretion *Seminar-04* **Dr. Sameer** **441800738 Mohammed Thafer M Al Shahrani** **441803079 Mohammed Turki M Al Mawi**	**Learning *IL-05* (online) Dr. Abdulaziz Alshomrani**	**Learning *IL-06* (online) Dr. Abdulaziz Alshomrani**		Cholinergic Agonist *IL-31* **Prof. Nabih**	Cholinergic Agonist *IL-32* **Prof. Nabih**
Wednesday 09/02/2021	***PBL-04*** **(2nd Session)** **Dr. Ali E Leader, Dr. Ammar, Dr. Elnahriri and Dr. Jaber and Dr. Karimeldeen**	Visual acuity and colour vision Power Lab 08 **Dr. Jeelani**			**Mentoring and Portfolio**	

Thursday 10/02/2021	Investigation of Epidemics *IL-33* **Dr. Kamal**	Investigation of Epidemics *IL-34* **Dr. Kamal**	Epidemiological Research **Dr. Ibrahim** *IL-35*	Epidemiological Research *IL-36* **Dr. Ibrahim**		Tuning-Fork Tests of Hearing Power Lab 09 **Dr. Sameer**

Week (5)							
Day	Times						
	Period 1		Period 2		12:00 to 13:00	Period 3	
	8:00 to 8.50 to 9.50	9.00	10:00-10.50 to 11:50	11		13:00 to 13:50 14:00-14:50	
Sunday 13/02/2022	Environmenta l pollution and secondhand smoke *IL-37* **Prof. Partha**	Occupational diseases *IL-38* **Prof. Partha**	Cholinergic Antagonist *IL-39* **Prof. Nabih**	Cholinergic Antagonist *IL-40* **Prof. Nabih**	Break	Tuning-Fork Tests of Hearing Power Lab 09 **Dr. Sameer**	
Monday 14/02/2022	High altitude physiology *TBL_05* **Dr. Jeelani**		Teratogenic Drugs *IL-41* **Prof. Nabih**	**Personality *IL-07* (online) Dr. Abdulaziz Alshomrani**		Effect of heat and heat exhaustion *IL-42* **Dr. Allhalafi**	Disease Transmission *IL-43* **Dr. Jibo**

Tuesday 15/02/2022	Stress: role of nervous & hormonal systems *Seminar-04* **Dr. Isa** **441803068 Muath Ayedh M Al Shahrani** **441803679 Mubarak Abdullah M Alqahtani**	**Health risking behaviors** ***Seminar 01*** **(Onsite)** **Dr.Shihab/ Dr.Abdullah Alhalafi Dr.Kamal**	Power lab 10 Perimetry **Dr. Isa**
Wednesday 16/02/2022	**Revision**		**Revision**
Thursday 17/02/2022	**Final Practical Exam**		

Week (6)				
Day	Times			
	Period 1	Period 2	12:00 to 13:00	Period 3
	8:00 to 8.50 9.00 to 9.50	10:00-10.50 11 to 11:50		13:00 to 13:50 14:00-14:50
Sunday 20/02/2022	**Final Theory Exam**			

10. Activity details:

Sunday	Date: 16/01/2022	Time: 08:00-08:15
Activity No. 1	**1**	
Activity type	**IL**	
Tutor	**Dr. Isa**	
Title	**Introduction to the course**	
Specific Learning Outcomes		
Resources		

	Deadline of submission is 04/02/2022	Time: 10:00 PM
Activity No.	**Submission through blackboard**	
Activity type	**Assessment of Assignment**	
Tutor	**Tutor: Dr. Isa Leader** **Members:** Dr. Jeelani, Dr. Sameer, Dr. Nahid, Dr. Vijaya and Prof. Lukman	
Title	**Body Fluid**	
Specific Learning Outcomes	1. Explain the principles of concentration gradient, water soluble and lipid soluble substances, and exchange of substances. 2. Explain the hydrostatic pressure – colloid and crystalloid osmotic pressures and their importance in kidney, lung and other tissues 3. Outline the functions of body electrolyte 4. Outline the disturbances of volume and concentration of body fluids 5. Explain the consequences of fluid disturbance on the human body 6. Outline the management of body fluid	

	disturbance
Resources	Please refer to the blackboard

Sunday	**Date: 16/01/2022**	**Time: 08:15-9:50**
Activity No.	**2**	
Activity type	**PBL_01**	
Tutor	**Dr. Ayman leader, Dr. Ali E, Dr. Ammar, Dr. Elhadi and Dr. Jaber**	
Title	**PBL 01 (1st Session)**	
Specific Learning Outcomes		
Resources		

Sunday	**Date: 16/01/2022**	**Time: 10:00-10:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Isa**	
Title	**Cell Membrane**	
Specific Learning Outcomes	1. Describe in detail the basic electron microscopic structure of the cell membrane. 2. Draw in detail the basic electron microscopic structure of the cell membrane.	
Resources	1. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 2 pages 13- 14. 2. Medical physiology for undergraduate students by Indu Khurana chapter 1.2 Pages	

	12-13

Sunday	Date: 16/01/2022	Time: 11:00-11:50
Activity No.	**4**	
Activity type	**SDL**	
Tutor		
Title	**SDL**	
Specific Learning Outcomes		
Resources		

Sunday	Date: 16/01/2022	Time: 13:00-13:50
Activity No.	**5**	
Activity type	**IL**	
Tutor	**Dr. Sameer M. Khan.**	
Title	**Transport Across Cell Membrane**	
Specific Learning Outcomes	1. Outline the functions and the methods of transport system across the membrane 2. Describe diffusion, facilitated diffusion, primary and secondary active transport, co-transport and counter transport with examples 3. Describe the sodium potassium voltage gated channels.	

Resources	1. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 4 pages 45- 56. 2. Medical physiology for undergraduate students by Indu Khurana chapter 1.3 pp. 15-24

Sunday	**Date: 16/01/2022**	**Time: 14:00-14:50**
Activity No.	**6**	
Activity type	**IL**	
Tutor	**Dr. Sameer M. Khan.**	
Title	**Pinocytosis and Phagocytosis**	
Specific Learning Outcomes	1. Outline pinocytosis and phagocytosis 2. List the functions of pinocytosis and phagocytosis 3. Explain the functions of pinocytosis and phagocytosis	
Resources	1. Indu khurana. Medical physiology for UG, 1st edition, Elsevier publication chapter 1.3 page 23, chapter 3.3 pge 126-127	

Monday	**Date: 17/01/2022**	**Time: 08:00-09:40**
Activity No.	**1**	
Activity type	**TBL_01**	
Tutor	**Dr. Elwathiq K. Ibrahim**	
Title	**Cell and its organelles**	
Specific Learning Outcomes	1. Define the tiny specialized structures (organelles) of the human cell: cell membrane, cytoplasm, nucleus, nucleolus, nuclear membrane, nucleoplasm, 2. mitochondria, microtubules, Golgi complex, lysosome, ribosome, endoplasmic reticulum,	

	microtubules, microvilli, centriole, vacuole, microfilament, vesicles 3. Describe the above organelles 4. Draw a cell showing the above organelles 5. Classify human cells according to their functions
Resources	1. Junqueira's Basic Histology. Anthony L. Mescher. Text and atlas. Pages: 18-48.

Monday	**Date: 17/01/2022**	**Time: 10:00-10:50**
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Dr. Jeelani Mohammed**	
Title	**Resting Membrane Potential**	
Specific Learning Outcomes	1. Define resting membrane potential 2. Describe Resting membrane potential 3. Explain the ionic changes across cell membranes in development of resting membrane potential 4. Explain Nernst equation	
Resources	1. Indu khurana. Medical physiology for UG, 1st edition, Elsevier publication chapter 1.4 page 25-27	

Monday	**Date: 17/01/2022**	**Time: 11:00-11:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Reda**	
Title	**Introduction to behavioral Sciences**	

Specific Learning Outcomes	Please refer to behavioral Sciences study guide
Resources	

Monday	**Date: 17/01/2022**	**Time: 13:00-13:50**
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Dr. Adamu Imam Isa**	
Title	**Action Potential**	
Specific Learning Outcomes	1. Define action potential 2. Explain the ionic changes across cell membranes in development of action potentials 3. Explain the propagation of action potential 4. Describe the stages of action potential	
Resources	1. Medical Physiology for undergraduates by Indu khurana section 2 nerve muscle physiology chapter 2.1 page number 49-51.	

Monday	**Date: 17/01/2022**	**Time: 14:00-14:50**
Activity No.	**5**	
Activity type	**IL**	
Tutor	**Dr. Rabia**	
Title	**Cell membranes**	
Specific Learning Outcomes	1. Explain the importance of proteins and phospholipids in the cell membrane, the lipid	

	bilayer and the protein channels. 2. Explain the structure and functions of biological membranes
Resources	1. Textbook of Biochemistry for Medical students, By Vasudevan et al. 6th edition , chapter 2, pages 11-12

Tuesday	**Date: 18/01/2022**	**Time: 08:00-09:50**
Activity No.	1	
Activity type	**Power lab-04**	
Tutor	**Dr. Hanan B**	
Title	**Demonstration of Measurement of pH**	
Specific Learning Outcomes	1. Outline the methods of pH measurement 2. Demonstrate the measurement of pH by pH meter and dipstick methods 3. Interpret the pH measurements in human blood and urine	
Resources	Practical Textbook of Biochemistry for Medical Students 2nd Edition (Jaypee Brothers Medical Publishers, 2013) Chapter 34 pp. 91-92	

Tuesday	**Date: 18/01/2022**	**Time: 10:00-11:50**
Activity No.	**2**	
Activity type	**PBL_01_Behavioral Sciences**	
Tutor	**Dr. Ayman leader, Dr. Ali E, Dr. Ammar, Dr. Ohaj and Dr.**	

	Jaber
Title	**PBL 01 (1st Session)**
Specific Learning Outcomes	
Resources	

Tuesday	**Date: 18/01/2022**	**Time: 13:00-14:50**
Activity No.	**3**	
Activity type	**Power lab_01**	
Tutor	**Tutors: Dr. Adamu I. Isa and Dr. Nahid Ahmed**	
Title	**Introduction to Power (Male G 1)**	
Specific Learning Outcomes	1. Explain the major hardware and software components of the LabTutor system 2. Perform recording of basic finger-pulse signals in LabTutor 3. Describe some of the annotation and analysis features in the LabTutor software	
Resources	1. LabTutor students laboratory handout. Uploaded in Blackboard	

Wednesday	**Date: 19/01/2022**	**Time: 08:00-09:50**
Activity No.	**1**	
Activity type	**PBL_01**	
Tutor	**Dr. Ayman leader, Dr. Ali E, Dr. Ammar, Dr. Elhadi and Dr. Jaber**	

Title	**PBL 01 (2nd Session)**
Specific Learning Outcomes	
Resources	

Wednesday	**Date: 19/01/2022**	**Time: 10:00-11:50**
Activity No.	**2**	
Activity type	**Power lab_01**	
Tutor	**Tutors: Dr. Adamu I. Isa and Dr. Nahid Ahmed**	
Title	**Introduction to Power (Male G 1)**	
Specific Learning Outcomes	4. Explain the major hardware and software components of the LabTutor system 5. Perform recording of basic finger-pulse signals in LabTutor 6. Describe some of the annotation and analysis features in the LabTutor software	
Resources	1. LabTutor students laboratory handout. Uploaded in Blackboard	

Wednesday	**Date: 19/01/2022**	**Time: 13:00-13:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Prof. Muzaffar**	

Title	Acids, bases and buffers
Specific Learning Outcomes	1. Define acids, bases and pH 2. Explain weak and strong acids. 3. Define and classify buffers. 4. Describe the composition of buffers 5. Explain the Henderson-Hasselbalch equation
Resources	1. Textbook of Biochemistry for Medical students, By Vasudevan et al. 6th edition , chapter 29, pages 339-341 Harper's Biochemistry , 30th edition , chapter 2 , page 11-14

Wednesday	Date: 19/01/2022	Time: 14:00-14:50
Activity No.	4	
Activity type	IL	
Tutor	Dr. Vijaya	
Title	Acid base balance and imbalance	
Specific Learning Outcomes	1. Describe the buffer systems of human body. 2. Explain the buffer mechanisms in the body. 3. Explain acid base imbalance 4. Describe the types of acid base disturbances (imbalance) with examples of each class. 5. Define anion gap and explain its importance	
Resources	1. Textbook of Biochemistry for Medical students, By Vasudevan et al. 7th edition, chapter 29, pages 391-399 2. Harper's Biochemistry, 30th edition, chapter 2 , page 11-14	

Thursday	Date: 20/01/2022	Time: 08:00-09:50
Activity No.	**1**	
Activity type	**Power lab-05**	
Tutor	**Dr. Osama Abbas**	
Title	**Demonstration of Dosage forms**	
Specific Learning Outcomes	1. Identify the different enteral forms of drug administration and their advantages and disadvantages. 2. Identify the parenteral dosage forms of drug administration, their advantages and disadvantages. 3. Identify the most common vaginal dosage form in clinical practice. 4. Identify different skin dosage forms in solid, semisolid and liquid situation 5. Demonstrate different respiratory dosage form which include aerosol, gases vapor and steam.	
Resources	Review of Pharmacology 14th Edition 2020, pages	

Thursday	Date: 20/01/2022	Time: 10:00-11:50
Activity No.	**2**	
Activity type	**Power lab**	
Tutor	**Dr. Mohammed O'haj**	
Title	**Demonstration of body fluid compartments measurement**	
Specific Learning Outcomes	1. Demonstrate determination of albumin, inulin for estimation in different compartments – ICF and ECF. 2. Describe drug distribution in different body compartments and redistribution.	
Resources	1. Guyton and Hall Textbook of Medical Physiology 13th Edition (Saunders 2012) Chapter 25, pp. 308-310.	

Thursday	Date: 20/01/2022	Time: 13:00-13:50
Activity No.	3	
Activity type	**IL**	
Tutor	**Dr. Jeelani Mohammed**	
Title	**Homeostasis**	
Specific Learning Outcomes	1. Define homeostasis. 2. Explain the concept of homeostasis and its consequences on the human body 3. Explain the positive and negative feedback mechanisms of homeostasis	
Resources	1. Indu khurana. Medical physiology for UG, 1st edition, Elsevier publication chapter 1 page 7 - 8	

Thursday	Date: 20/01/2022	Time: 14:00-14:50
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Dr. Adamu I. Isa**	
Title	**General Principles of Gastrointestinal Functions**	

Specific Learning Outcomes	1. Describe the general principles of gastrointestinal motility and secretion • Describe the characteristics of gastrointestinal smooth muscle functioning • Describe the Electrical activity of gastrointestinal smooth muscle • List the factors affecting RMP of gastrointestinal smooth muscles. 2. Describe an overview of the gastrointestinal hormones Classify GIT hormones • List the stimulus for and actions of gastrointestinal hormones on gastric secretion, gastric motility, pancreatic secretion, bile secretion, gall bladder contraction, small intestine secretion and small intestine motility.
Resources	1. Medical Physiology by Indu Khurana chapter 7.1 page number 454-455

Sunday	**Date: 23/01/2022**	**Time: 08:00-9:50**
Activity No.	**1**	
Activity type	**PBL_02 (1st Session)**	
Tutor	**Dr. Jeelani Leader, Dr. Elnahriri, Prof. Nabih, Dr. Ohaj and Dr. Shahazadah**	
Title	**PBL_02 (1st Session)**	
Specific Learning Outcomes		
Resources		

Sunday	**Date: 23/01/2022**	**Time: 10:00-10:50**

Activity No.	**1**
Activity type	**IL**
Tutor	**Dr. Adel**
Title	**GIT structure and functional relationship**
Specific Learning Outcomes	1. Describe the general plan of organization of GIT 2. Outline the functional role of each part and basic structure and functional relationship of all organs of the GIT. 3. Explain the basic histological structures particularly cells of various types comprising the glands. 4. Explain the basic histological layers of GIT mucosa, submucosa, muscularis and serosa
Resources	1. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 62, pp. 753-754 and Chapter 64, pp. 773-788 2. Junqueira's Basic Histology Text and Atlas, 13th Edition. PP. 323-340.

Sunday	**Date: 23/01/2022**	**Time: 11:00-11:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Adamu I. Isa**	
Title	**Neural mechanism, receptors**	
Specific Learning Outcomes	1. Explain the neural mechanism – concept of receptors, molecular and sensory. • Define receptor • Classify sensory receptors • Explain the modality of sensation • Outline the properties of receptors	
Resources	1. Medical Physiology by Indu Khurana chapter 10.8 page number 795-801 2. Essentials of Medical Physiology by Sembulingham 7th Edition. Chapter 136, pp. 808-812	

Sunday	Date: 23/01/2022	Time: 13:00-14:50
Activity No.	**3**	
Activity type	**Power Lab-06 Male G 1**	
Tutor	**Dr. Mohammed Jeelani/Dr. Nahid Ahmed**	
Title	**Conduction velocity**	
Specific Learning Outcomes	1. Explain conduction velocity. 2. Calculate conduction velocity of nerves.	
Resources	1. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 46, pp. 563-564. 2. Lab Tutor students manual. Uploaded in Blackboard	

Monday	Date: 24/01/2022	Time: 08:00-09:50
Activity No.	**1**	
Activity type	**TBL**	
Tutor	**Dr. Adamu I Isa**	
Title	**Sensory pathways**	
Specific Learning Outcomes	1. Define sensory pathway 2. Describe the Pathways of somatosensory system 3. Describe the Pathways of viscerosensory system	
Resources	1. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 47, pp. 571-582	

Monday	Date: 24/01/2022	Time: 10:00-10:50
Activity No.	2	
Activity type	**Power lab-03**	
Tutor	**Dr. Osama Abbas**	
Title	**Demonstration of sources of drugs**	
Specific Learning Outcomes	1. Identify different sources of drugs. 2. Identify different organic drugs, which include animals, plants and microorganisms' source of product. 3. Identify the different drugs of plant origin including alkaloids, fixed oil, glycosides, volatile oil and tannins. 4. Identify the most common drugs of animal origin in clinical practice. 5. Identify the synthetic drugs that arise from biological method and their clinical application in medicine.	
Resources	Review of Pharmacology 14th Edition 2020, pages	

Monday	Date: 24/01/2022	Time: 11:00-11:50
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Reda**	
Title	**Intelligence**	
Specific Learning Outcomes	Please Refer to Behavioral Sciences Study Guide	
Resources	Please Refer to Behavioral Sciences Study Guide	

Monday	Date: 24/01/2022	Time: 13:00-13:50
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Dr. Nahid Ahmed**	
Title	**Visceral reflexes**	
Specific Learning Outcomes	1. Explain various visceral reflexes & their role in homeostasis. • Define visceral reflex • Describe the baroreceptor reflex • Describe the micturition reflex • Describe gastric secretions	
Resources	1. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 58, pp. 714-720. Medical physiology for undergraduate students by Indu Khurana chapter 4.5 pp. 255-259, chapter 6.7 pp. 444-446 and chapter 7.3 pp. 470-471	

Monday	Date: 24/01/2022	Time: 14:00-14:50
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Tutors: Dr. Reda**	
Title	**Autonomic neuropathy**	
Specific Learning Outcomes	1. Define autonomic neuropathy 2. Outline the mechanism and pathology of autonomic neuropathy 3. List clinical presentation of autonomic neuropathy	

Resources	1. Kumar and Clarck

Tuesday	**Date: 25/01/2022**	**Time: 08:00-09:50**
Activity No.	**1**	
Activity type	**Seminar-01**	
Tutor	**Dr. Sameer**	
Title	**Autonomic Nervous System**	
Specific Learning Outcomes	1. Define sensory receptors, sensory pathways and the general plan of ANS and functional levels of CNS. 2. Outline the two-primary divisions of nervous system. 3. Compare and contrast the actions of sympathetic and parasympathetic nervous systems. 4. Identify the neurotransmitters important to autonomic nervous system (ANS).	
Resources	1. Guyton and Hall Textbook of Medical Physiology 13th edition	

Tuesday	**Date: 25/01/2022**	**Time: 10:00-11:50**
Activity No.	**2**	
Activity type	**PBL_01 (2nd Session)**	
Tutor	**Dr. Jeelani Leader, Dr. Elnahriri, Prof. Nabih, Dr. Ohaj and Dr. Shahazadah**	

Title	PBL_01 (2nd Session)
Specific Learning Outcomes	
Resources	

Tuesday	Date: 25/01/2022	Time: 13:00-13:50
Activity No.	4	
Activity type	Power lab-06	
Tutor	Dr. Osama Abbas	
Title	Demonstration of Routes of Drugs Administration	
Specific Learning Outcomes	1. Demonstrate how the six rights of drug administration affect patient safety. 2. Explain the proper methods to administer enteral, topical and parenteral drugs. 3. Compare the advantages and disadvantages of each route of drug administration 1. Explain the importance of enterohepatic recirculation to drug therapy and the first pass effect	
Resources	Review of Pharmacology 14th Edition 2020, pages 82-84	

Wednesday	Date: 26/01/2022	Time: 08:00-09:50
Activity No.	1	
Activity type	PBL_02 (2nd Session)	
Tutor	Dr. Jeelani Leader, Dr. Elnahriri, Prof. Nabih, Dr. Ohaj and	

	Dr. Shahazadah
Title	**PBL_02 (2nd Session)**
Specific Learning Outcomes	
Resources	

Wednesday	**Date: 26/01/2022**	**Time: 10:00-10:50**
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Dr. Mohammed Jeelani**	
Title	**Role of Hypothalamus in homeostasis**	
Specific Learning Outcomes	1. Describe the hypothalamus and its role in homeostasis of temperature, osmolarity, fluid volume and fluid intake. 2. Describe role of hypothalamus – thermoreceptors (body temperature), glucoreceptors (hunger and food intake), osmoreceptors (volume, osmolarity, water intake and thirst) and chemoreceptors (oxygen, carbon dioxide and pH).	
Resources	1. Arthur Guyton, Textbook of Medical Physiology. 13th. Ed. Elsevier Saunders, page number 754-759(chapter 59), page 889-894(chapter 72), page381-382 (chapter 29), 915-919 (chapter 74), page 222(chapter 18), page 542-	

	543(chapter 42)

Wednesday	Date: 26/01/2022	Time: 11:00-11:50
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Sameer M. Khan**	
Title	**Vision**	
Specific Learning Outcomes	1. Outline the Principles of optics 2. Explain the mechanism involve in Processing and transmission of visual impulse in retina 3. Explain the mechanism involve in Processing and transmission of visual impulse in visual Pathway 4. Explain the mechanism involve in Processing and analysis of visual impulse in the visual cortex	
Resources	1. Medical physiology for undergraduate students by InduKhurana Section 4 chapter 11.1 Page 890-918	

Wednesday	Date: 26/01/2022	Time: 13:00-14:50
Activity No.	**4**	
Activity type	**Mentoring**	
Tutor		
Title	**Portfolio/Mentoring**	
Specific Learning Outcomes		

Resources	

Thursday	**Date: 27/01/2022**	**Time: 08:00-08:50**
Activity No.	**1**	
Activity type	**Sympathetic Agonists 1**	
Tutor	**Tutor: Dr. Osama hamed A. Mo**	
Title	**Sympathetic Agonists 1**	
Specific Learning Outcomes	1. Identify the two-primary division of nervous system 2. Identify the neurotransmitters important to autonomic nervous system (ANS). 3. Describe the points of potential pharmacological intervention in the synthetic, storage, release, receptor binding and termination steps of the neurotransmitter's norepinephrine and epinephrine 4. Describe the types of effect that occur when a drug stimulates alpha- and beta-adrenergic receptors 5. Explain how the adrenergic drugs are primarily used for their effects on the heart, bronchial tree and other organs	
Resources	Review of Pharmacology 14th Edition 2020, pages 213-214 & 226- 236	

Thursday	**Date: 27/01/2022**	**Time: 09:00-09:50**
Activity No.	2	
Activity type	**Sympathetic Agonists 1**	
Tutor	**Tutor: Dr. Osama A. Mohamed**	
Title	**Sympathetic Agonists 1**	
Specific Learning	Identify the two-primary division of nervous	

Outcomes	system 2. Identify the neurotransmitters important to autonomic nervous system (ANS). 3. Describe the points of potential pharmacological intervention in the synthetic, storage, release, receptor binding and termination steps of the neurotransmitter's norepinephrine and epinephrine 4. Describe the types of effect that occur when a drug stimulates alpha- and beta-adrenergic receptors 5. Explain how the adrenergic drugs are primarily used for their effects on the heart, bronchial tree and other organs
Resources	Review of Pharmacology 14th Edition 2020, pages 213-214 & 226- 236

Thursday	**Date: 27/01/2022**	**Time: 10:00-10:50**
Activity No.	3	
Activity type	**IL**	
Tutor	**Dr. Prof. Nabih**	
Title	**Pharmacokinetics 1**	
Specific Learning Outcomes	1. Define Pharmacokinetic 2. Describe absorption, distribution, metabolism and excretion. 3. Compare between 1st order kinetic and zero order kinetic with examples	
Resources	1. Review of Pharmacology, Gobind Raj Garg, Sparsh Gupta, Ninth edition, 2015 Page 4-11	

Thursday	**Date: 27/01/2022**	**Time: 11:00-11:50**
Activity No.	**4**	
Activity type	**IL**	

Tutor	**Dr. Prof. Nabih**
Title	**Pharmacokinetics 2**
Specific Learning Outcomes	1. Define Pharmacokinetic 2. Describe absorption, distribution, metabolism and excretion. 3. Compare between 1st order kinetic and zero order kinetic with examples
Resources	1. Review of Pharmacology, Gobind Raj Garg, Sparsh Gupta, Ninth edition, 2015 Page 4-11

Thursday	**Date: 27/01/2022**	**Time: 13:00-13:50**
Activity No.	**5**	
Activity type	**Power Lab-06 Male G 1**	
Tutor	**Dr. Adamu I. Isa/Dr. Jeelani**	
Title	**Conduction velocity**	
Specific Learning Outcomes	3. Explain conduction velocity. 4. Calculate conduction velocity of nerves.	
Resources	3. Guyton and Hall Textbook of Medical Physiology 12th Edition (Saunders 2011) Chapter 46, pp. 563-564. 4. Lab Tutor students manual. Uploaded in Blackboard	

Sunday	**Date: 30/01/2022**	**Time: 08:00-09:50**
Activity No.	**1**	

Activity type	**PBL-03**
Tutor	**Tutors: Prof. Muzaffar Leader, Dr. Sameer, Dr. Abdulelah, Dr. Yousef, Dr. Shihab**
Title	**PBL-03 (1st Session)**
Specific Learning Outcomes	
Resources	

Sunday	**Date: 30/01/2022**	**Time: 10:00-10:50**
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Dr. Nahid Ahmed**	
Title	**Intestinal Motility**	
Specific Learning Outcomes	1. Describe the normal motility of the intestine 2. Explain the mechanism and control of intestinal motility	
Resources	Guyton and Hall Textbook of Medical Physiology	

Sunday	**Date: 30/01/2022**	**Time: 11:00-11:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Nahid Ahmed**	
Title	**Limbic System and Physiology of Emotions**	

Specific Learning Outcomes	1. Explain the limbic system in relation to emotional responses. A Explain the functions of the limbic system B Explain the physiology of emotions C Explain the physiology of motivation
Resources	

Sunday	**Date: 30/01/2022**	**Time: 13:00-13:50**
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Dr. Osama A. Mohamad**	
Title	**Pharmacodynamics and pharmacogenetics**	
Specific Learning Outcomes	1. Define Pharmacodynamics and pharmacogenetics 2. Discuss how pharmacodynamics focuses on what the drug does to the body and different mechanisms for drug receptor interaction 3. Describe how drugs activate specific receptors to produce a response 4. Explain chemical, physiological and pharmacological antagonists 5. Explain different types of drug adverse effects.	
Resources	1. Review of Pharmacology 14th Edition 2020, pages 100-112	

Sunday	Date: 30/01/2022	Time: 14:00-14:50
Activity No.	**5**	
Activity type	**IL**	
Tutor	**Dr. Osama A. Mohamad**	
Title	**Pharmacodynamics and pharmacogenetics**	
Specific Learning Outcomes	1. Define Pharmacodynamics and pharmacogenetics 2. Discuss how pharmacodynamics focuses on what the drug does to the body and different mechanisms for drug receptor interaction 3. Describe how drugs activate specific receptors to produce a response 4. Explain chemical, physiological and pharmacological antagonists 5. Explain different types of drug adverse effects.	
Resources	1. Review of Pharmacology 14th Edition 2020, pages 100112	

Monday	Date: 31/02/2022	Time: 08:00-09:50
Activity No.	**1**	
Activity type	**TBL-03**	
Tutor	**Dr. Sameer M. Khan**	
Title	**Liver functions**	
Specific Learning Outcomes	1. Explain the functions of the liver • List the functions of the liver • Describe the major functions of the liver with respect to metabolism, detoxification & excretion. 2. Explain the storage function of the liver	
Resources	1. Medical Physiology by Indu Khurana chapter 7.4 page number 488-489	

Monday	Date: 31/02/2022	Time: 10:00-10:50
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Dr. Hany**	
Title	**Organization of nervous system**	
Specific Learning Outcomes	1. Describe the general and functional organization of nervous system 2. Outline the division of the nervous system 3. Describe the central nervous system 4. Describe the peripheral nervous system 5. Describe the autonomic nervous system	
Resources	Clinical Anatomy by Regions 9th. Richard Snell. Pages: 201. 28.	

Monday	Date: 31/02/2022	Time: 11:00-11:50
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Dr. Nahid Ahmed**	
Title	**Language**	
Specific Learning Outcomes	Please refer to Behavioral Sciences Study Guide	
Resources	Please refer to Behavioral Sciences Study Guide	

Monday	Date: 31/02/2022	Time: 13:00-13:50

Activity No.	**3**
Activity type	**IL**
Tutor	**Tutor: Dr. Osama A. Moha med**
Title	**Sympathetic Antagonists 1 & 2**
Specific Learning Outcomes	1. List different alpha- and beta-adrenergic blocking agents 2. Describe the pharmacological effects, mode of action, clinical uses and side effects of different beta-adrenergic antagonists 3. Describe the pharmacological effects, mode of action, clinical uses and side effects of different alpha-adrenergic antagonists
Resources	Review of Pharmacology 14th Edition 2020, pages 236- 247

Monday	**Date: 31/02/2022**	**Time: 14:00-14:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Osama A. Moha med**	
Title	**Sympathetic Antagonists 1 & 2**	
Specific Learning Outcomes	1. List different alpha- and beta-adrenergic blocking agents 2. Describe the pharmacological effects, mode of action, clinical uses and side effects of different beta-adrenergic antagonists 3. Describe the pharmacological effects, mode of action, clinical uses and side effects of different alpha-adrenergic antagonists	
Resources	Review of Pharmacology 14th Edition 2020, pages 236- 247	

Tuesday	Date: 01/02/2022	Time: 08:00-09:50
Activity No.	**1**	
Activity type	**Seminar-02**	
Tutor	**Dr. Asad**	
Title	**Structure of the Skin**	
Specific Learning Outcomes	1. List layers of the skin 2. Describe the gross structure of the skin 3. Describe histological structure of the skin	
Resources	1. Jonquiere's Basic Histology. Anthony L. Mescher. Text and atlas	

Tuesday	Date: 01/02/2022	Time: 10:00-11:50
Activity No.	**2**	
Activity type	**TBL-01 [On Site]**	
Tutor	**Dr. Sameer/Dr. Nahid**	
Title	**Memory**	
Specific Learning Outcomes	Please refer to Behavioral Sciences Study Guide	
Resources	Please refer to Behavioral Sciences Study Guide	

Tuesday	Date: 01/02/2022	Time: 13:00-14:50
Activity No.	3	
Activity type	PBL-03	
Tutor	Tutors: Prof. Muzaffar Leader, Dr. Sameer, Dr. Abdulelah, Dr. Yousef, Dr. Shihab	
Title	PBL-03 (2nd Session)	
Specific Learning Outcomes		
Resources		

Sunday	Date: 06/02/2022	Time: 08:00-09:50
Activity No.	1	
Activity type	Midcourse Exam	
Tutor		
Title	Midcourse Exam	
Specific Learning Outcomes		
Resources		

Sunday	Date: 06/02/2022	Time: 10:00-11:50
Activity No.	**2**	
Activity type	**Power lab-08**	
Tutor	**Dr. Mohammed Jeelani**	
Title	**Visual acuity (G 1 Male)**	
Specific Learning Outcomes	1. Give the definition of visual acuity. 2. Explain the importance of determining distant and near vision. 3. Preform experiment on distant and near vision 4. List the factors that affect visual acuity? 5. Name the errors of refraction and how they are corrected.	
Resources	1. CL Ghai A Textbook of Practical Physiology 8th Edition (Jaypee 2013) Section 2, Unit iii, pp. 208-213.	

Sunday	Date: 06/02/2022	Time: 13:00-14:50
Activity No.	**3**	
Activity type	**PBL-04**	
Tutor	**Tutors: Prof. Muzaffar Leader, Dr. Sameer, Dr. Abdulelah, Dr. Yousef, Dr. Shihab**	
Title	**PBL-03 (1st Session)**	
Specific Learning Outcomes	**Dr. Ali E Leader, Dr. Ammar, Dr. Elnahriri and Dr. Jaber and Dr. Karimeldeen**	
Resources		

Monday	Date: 07/02/2022	Time: 08:00-09:50
Activity No.	**1**	
Activity type	**TBL-04**	
Tutor	**Dr. Sameer M. Khan**	
Title	**Taste and olfaction**	
Specific Learning Outcomes	1. Explain the role of olfaction in nutrition. 2. Explain the role of taste in nutrition 3. Outline different types of taste 4. Describe the taste pathway 5. Describe the olfactory pathway	
Resources	1. Guyton and Hall Textbook of Medical Physiology 13th Edition (Saunders 2016) Chapter 54, pp. 685-692.	

Monday	Date: 07/02/2022	Time: 10:00-10:50
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Sameer M. Khan**	
Title	**Audition**	
Specific Learning Outcomes	1. Describe the auditory pathway 2. Outline the roles of the external and middle ear in the conduction of sound waves 3. Describe the process of transduction of sound waves 4. Outline the neural transmission of sound signals	
Resources	1. Medical physiology for undergraduate students by InduKhuranaSection 4 chapter 11.2 Page 928-937	

Monday	Date: 07/02/2022	Time: 11:00-11:50
Activity No.	**3**	
Activity type	**IL [Online]**	
Tutor	**Tutor: Dr. Sameer M. Khan**	
Title	**Motivation and Emotion**	
Specific Learning Outcomes	Consult Behavioral Science Study guide	
Resources	Consult Behavioral Science Study guide	

Monday	Date: 07/02/2022	Time: 13:00-13:50
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Prof. Lukman**	
Title	**Peripheral Neuropathy**	
Specific Learning Outcomes	1. Define peripheral neuropathy 2. Outline pathology, clinical presentation and management of peripheral neuropathy	
Resources	Davidson's Principles and Practice of Medicine 21st Ed Chapter 26. Pp.1225-1231	

Monday	Date: 07/02/2022	Time: 14:00-14:50
Activity No.	**5**	
Activity type	**IL**	
Tutor	**Dr. Nahid Ahmed**	
Title	**Functions of the Skin**	
Specific Learning Outcomes	1. List the functions of the skin 2. Explain the cutaneous circulation 3. Outline the characteristic feature of cutaneous circulation 4. Explain the regulation of cutaneous blood flow 5. Outline the cutaneous vascular responses	
Resources	1. Medical Physiology by Indu Khurana chapter 1.1 page 3 and chapter 4.6 page number 273-275 4.6 page number 273-275 chapter 4.6 page number 273-275	

Tuesday	Date: 08/02/2022	Time: 08:00-09:50
Activity No.	**1**	
Activity type	**Seminar-03**	
Tutor	**Tutor: Dr. Sameeran M. Kh**	
Title	**ADH, hormonal secretion**	
Specific Learning Outcomes	1. Outline the synthesis and storage of ADH 2. Outline the vasopressin receptors 3. Explain the mechanism of action of ADH (positive & negative feedback) 4. Outline the actions of ADH 5. Outline factors regulating ADH secretion	

Resources	1. Medical physiology for undergraduate students by Indu Khurana chapter 8.3 pp. 546-549

Tuesday	**Date: 08/02/2022**	**Time: 10:00-10:50**
Activity No.	**2**	
Activity type	**IL [Online]**	
Tutor	Dr. Abdulaziz Alshomrani	
Title	**Learning**	
Specific Learning Outcomes	Consult Behavioral Science Study guide	
Resources	Consult Behavioral Science Study guide	

Tuesday	**Date: 08/02/2022**	**Time: 11:00-11:50**
Activity No.	**3**	
Activity type	**IL [Online]**	
Tutor	Dr. Abdulaziz Alshomrani	
Title	**Learning**	
Specific Learning Outcomes	Consult Behavioral Science Study guide	
Resources	Consult Behavioral Science Study guide	

Tuesday	Date: 08/02/2022	Time: 13:00-13:50
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Prof. Mohamed Nabih**	
Title	**Cholinergic Agonists 1 & 2**	
Specific Learning Outcomes	1. Describe the points of potential pharmacological intervention in the synthetic, storage, release, receptor binding and termination steps of the neurotransmitter's acetylcholine. 2. Describe the types of effect that occur when a drug stimulates muscarinic and nicotinic receptors. 3. Describe the pharmacological effect, mechanism of action, clinical uses and side effects of anticholinesterase drugs 4. Describe acute and chronic toxicity of organophosphorus compounds, explaining etiological factors, manifestation of poisoning and drug therapy of such poisoning	
Resources	Review of Pharmacology 14th Edition 2020, pages 213- 214 & 215- 222	

Tuesday	Date: 08/02/2022	Time: 14:00-14:50
Activity No.	**5**	
Activity type	**IL**	
Tutor	**Prof. Mohamed Nabih**	
Title	**Cholinergic Agonists 1 & 2**	
Specific Learning Outcomes	1. Describe the points of potential pharmacological intervention in the	

	synthetic, storage, release, receptor binding and termination steps of the neurotransmitter's acetylcholine. 2. Describe the types of effect that occur when a drug stimulates muscarinic and nicotinic receptors. 3. Describe the pharmacological effect, mechanism of action, clinical uses and side effects of anticholinesterase drugs
Resources	Review of Pharmacology 14th Edition 2020, pages 213- 214 & 215- 222

Wednesday	**Date: 09/02/2022**	**Time: 08:00-09:50**
Activity No.	**1**	
Activity type	**PBL-04**	
Tutor	**Tutors: Prof. Muzaffar Leader, Dr. Sameer, Dr. Abdulelah, Dr. Yousef, Dr. Shihab**	
Title	**PBL-03 (2nd Session)**	
Specific Learning Outcomes	**Dr. Ali E Leader, Dr. Ammar, Dr. Elnahriri and Dr. Jaber and Dr. Karimeldeen**	
Resources		

Wednesday	**Date: 09/02/2022**	**Time: 10:00-11:50**
Activity No.	**2**	
Activity type	**Power lab-08**	
Tutor	**Dr. Dr. Jeelani Mohammed**	
Title	**Visual acuity (Male G 2)**	
Specific Learning Outcomes	1. Give the definition of visual acuity. 2. Explain the importance of determining distant and near vision.	

	3. Preform experiment on distant and near vision 4. List the factors that affect visual acuity? 5. Name the errors of refraction and how they are corrected.
Resources	1. CL Ghai A Textbook of Practical Physiology 8th Edition (Jaypee 2013) Section 2, Unit iii, pp. 208-213.

Wednesday	**Date: 09/02/2022**	**Time: 13:00-14:50**
Activity No.	**3**	
Activity type	**Mentoring**	
Tutor		
Title	**Portfolio/Mentoring**	
Specific Learning Outcomes		
Resources		

Thursday	**Date: 10/02/2022**	**Time: 08:00-08:50**
Activity No.	**1**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Kamal**	
Title	**Investigation of Epidemics**	
Specific Learning Outcomes	1. Describe investigation of epidemics 2. Describe the levels of disease prevention 3. Outline management of epidemics	

Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 3, pp. 131-134

Thursday	**Date: 10/02/2022**	**Time: 09:00-09:50**
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Kamal**	
Title	**Investigation of Epidemics**	
Specific Learning Outcomes	1. Describe investigation of epidemics 2. Describe the levels of disease prevention 3. Outline management of epidemics	
Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 3, pp. 131-134	

Thursday	**Date: 10/02/2022**	**Time: 10:00-10:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Ibrahim**	
Title	**Epidemiological research**	

Specific Learning Outcomes	1. Outline types of epidemiological studies 2. Describe methods of epidemiological research. 3. Explain methodology, construction & interpretation of epidemic curve.
Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 3, 62-86

Thursday	**Date: 10/02/2022**	**Time: 11:00-11:50**
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Ibrahim**	
Title	**Epidemiological research**	
Specific Learning Outcomes	1. Outline types of epidemiological studies 2. Describe methods of epidemiological research. 3. Explain methodology, construction & interpretation of epidemic curve.	
Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 3, 62-86	

Tuesday	**Date: 09/02/2021**	**Time: 13:00-14:50**
Activity No.	**5**	
Activity type	**Power lab-09**	
Tutor	**Dr. Sameer M. Khan**	

Title	**Tuning-Fork Tests of Hearing (Male G1)**
Specific Learning Outcomes	1. Explain the importance of doing hearing tests in clinical physiology. 2. Conduct experiment on hearing tests 3. Define sound, and name its characteristics that are perceived by the ear. 4. Describe the principle underlying tuning-fork tests. 5. Differentiate between air (ossicular) conduction and boneconduction. 6. Describe the principle of audiometry. 7. Comment on cochlear implants.
Resources	1. CL Ghai A Textbook of Practical Physiology 8th Edition (Jaypee 2013) Section 2, Unit iii, pp. 213-217.

Sunday	**Date: 13/02/2022**	**Time: 08:00-08:50**
Activity No.	**1**	
Activity type	**IL**	
Tutor	**Tutor: Prof. Partha**	
Title	**Environmental pollution and second-hand smoke**	
Specific Learning Outcomes	1. Describe effects of oil spills and environmental pollution caused by industrial smoke on entire cities and communities.	

Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 12, 738-744

Sunday	**Date: 13/02/2022**	**Time: 13:00-13:50**
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Tutor: Prof. Partha**	
Title	**Occupational diseases**	
Specific Learning Outcomes	1. Explain the relationship of occupation and its effect on health using work environment of hospital, cement and agriculture industry for illustration. 2. Describe working in oil refineries and related industry as an occupational hazard. 3. Describe occupational respiratory diseases	
Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 15, 803-819	

Sunday	**Date: 13/02/2022**	**Time: 10:00-10:50**
Activity No.	**3**	
Activity type	**IL**	
Tutor	**Prof. Mohamed Nabih**	
Title	**Cholinergic Antagonists 1 & 2**	

Specific Learning Outcomes	1. Describe pharmacological actions, uses, adverse effects and contraindications of atropine (muscarinic antagonists) 1. Explain different atropine substitutes on eye, basal ganglia, respiratory tract, urinary tract and digestive tract explaining their role in clinical practice
Resources	Review of Pharmacology 14th Edition 2020, pages; 222-226

Sunday	**Date: 13/02/2022**	**Time: 11:00-11:50**
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Prof. Mohamed Nabih**	
Title	**Cholinergic Antagonists 1 & 2**	
Specific Learning Outcomes	2. Describe pharmacological actions, uses, adverse effects and contraindications of atropine (muscarinic antagonists) 3. Explain different atropine substitutes on eye, basal ganglia, respiratory tract, urinary tract and digestive tract explaining their role in clinical practice	
Resources	Review of Pharmacology 14th Edition 2020, pages; 222-226	

Sunday	**Date: 13/02/2022**	**Time: 13:00-14:50**
Activity No.	**5**	
Activity type	**Power lab-09**	

Tutor	**Dr. Sameer M. Khan**
Title	**Tuning-Fork Tests of Hearing (Male G2)**
Specific Learning Outcomes	1. Explain the importance of doing hearing tests in clinical physiology. 2. Conduct experiment on hearing tests 3. Define sound, and name its characteristics that are perceived by the ear. 4. Describe the principle underlying tuning-fork tests. 5. Differentiate between air (ossicular) conduction and boneconduction. 6. Describe the principle of audiometry. 7. Comment on cochlear implants.
Resources	1. CL Ghai A Textbook of Practical Physiology 8th Edition (Jaypee 2013) Section 2, Unit iii, pp. 213-217.

Monday	**Date: 14/02/2022**	**Time: 08:00-09:50**
Activity No.	**1**	
Activity type	**TBL-04**	
Tutor	**Dr. Jeelani**	
Title	High altitude physiology	
Specific Learning Outcomes	1. Describe adaptation to cold environment. 2. Describe adaptive changes in the body upon prolonged exposure to extreme cold. 3. Define normal atmospheric oxygen partial pressure. 4. Identify conditions in which there is change in oxygen partial pressure. 5. Explain effects of low oxygen pressure on the body. 6. Explain process of acclimatization to low partial pressure of oxygen.	
Resources	Arthur Guyton, Textbook of Medical Physiology. 13th. Ed. Elsevier Saunders.	

Monday	Date: 14/02/2022	Time: 10:00-10:50
Activity No.	**2**	
Activity type	**IL**	
Tutor	**Prof. Nabih A. Dayem**	
Title	**Teratogenic Drugs**	
Specific Learning Outcomes	1. Demonstrate understanding on how drugs in different topical forms are absorbed through the skin. 2. List the most important dermatological products used to treat various skin disorders. 3. Explain the principle of photo chemotherapy for different dermatological diseases	
Resources	1. The pharmacological basis of therapeutics. Goodman and Gilman's (2016). Chapter 9, pp. 707-728 2. Review of pharmacology, Gobind and Sparsh, 9th Edition, pp.691-692	

Monday	Date: 14/02/2022	Time: 11:00-11:50
Activity No.	**4**	
Activity type	**IL [online]**	
Tutor	Dr. Abdulaziz Alshomrani	
Title	**Personality**	
Specific Learning Outcomes	Consult Behavioral Science Study guide	
Resources	Consult Behavioral Science Study guide	

Monday	Date: 14/02/2022	Time: 13:00-13:50
Activity No.	**4**	
Activity type	**IL**	
Tutor	**Dr. Allhalafi**	
Title	Effect of heat and heat exhaustion	
Specific Learning Outcomes	1. Define heat exhaustion 2. Explain the effects of heat and heat exhaustion. 3. Explain the clinical consequences of exposure to abnormal temperatures and low oxygen partial pressure and adaptation in human body 4. Outline the management of condition resulting from exposure to abnormal temperatures and low oxygen partial pressure.	
Resources		

Monday	Date: 14/02/2022	Time: 14:00-14:50
Activity No.	**5**	
Activity type	**IL**	
Tutor	**Tutor: Dr. Abubakar Jibo**	
Title	**Disease Transmission**	
Specific Learning Outcomes	1. Describe mechanism of transmission of disease. 2. Define horizontal transmission: Human to human – direct contact, indirect contact, nonhuman to human – soil, water sources, animal, directly, Via insect vector, environment. 3. Define vertical transmission. 4. Describe the agent host environment triad and relation to disease occurrence. 5. Explain disease trans 6. mission, incubation and latent periods. 7. Explain the role of environment in disease occurrence	

	(endemic, epidemic & pandemic), distribution and frequency of disease
Resources	1. Park Textbook of Preventive and Social Medicine 23rd Edition (2015). Chapter 3, 94-100

Tuesday	**Date: 15/02/2022**	**Time: 08:00-09:50**
Activity No.	**1**	
Activity type	**Seminar-04**	
Tutor	**Tutor: Dr. Adamu I. Imam**	
Title	**Stress, Role of nervous and hormonal systems**	
Specific Learning Outcomes	1. Define stress 2. Explain how the body responds to stress 3. Explain the types of stress 4. Describe the steps involved in the adaptation to stress by an integrated response of hypothalamic–pituitary–adrenal cortex axis and sympathoadrenal medullary system 5. Describe the role of nervous system in homeostasis	
Resources	1. Indu khurana. Medical physiology for UG, 1st edition, Elsevier publication chapter 8.5 pp. 599 – 600	

Tuesday	**Date: 15/02/2022**	**Time: 10:00-11:50**
Activity No.	**2**	
Activity type	***Seminar 01*** **[Onsite]**	
Tutor	**Dr.Shihab/ Dr.Abdullah Alhalafi Dr.Kamal**	
Title	**Health risking behaviors**	

Specific Learning Outcomes	Consult Behavioral Science Study guide
Resources	Consult Behavioral Science Study guide

Tuesday	**Date: 15/02/2022**	**Time: 13:00-14:50**
Activity No.	**3**	
Activity type	**Practical**	
Tutor	**Dr. Adamu I. Isa**	
Title	**Demonstration of Perimetry**	
Specific Learning Outcomes	1. Define field of vision and physiological blind spot. 2. Determine the field of vision in a subject and describe its extent in various meridians. 3. Describe the printed perimeter chart. 4. Name the factors that affect the field of vision. 5. Trace the visual pathway and name the effects of lesion at different places.	
Resources	1. CL Ghai A Textbook of Practical Physiology 8th Edition (Jaypee 2013) Section 2, Unit iii, pp. 200-204.	

Wednesday	**Date: 16/02/2022**	**Time:**
Activity No.	**1**	
Activity type	**Revision**	
Tutor		
Title	**Revision**	

Specific Learning Outcomes	
Resources	

Thursday	**Date: 17/02/2022**	**Time: 08:00-12:00**
Activity No.	**1**	
Activity type	**Practical Exam**	
Tutor		
Title	**Practical Exam**	
Specific Learning Outcomes		
Resources		

Sunday	**Date: 20/02/2022**	**Time: 08:00-12.00**
Activity No.	**1**	
Activity type	**Final Theory Exam**	
Tutor		
Title	**Theory Exam**	
Specific Learning Outcomes		
Resources		

11. Assessment Tasks for Students

#	Assessment task	Week Due	Percentage of Total Assessment Score
1	**Mid-course**	**Beginning of 4th week**	**40%**
2	**PBL**	**Ongoing**	
3	**TBL**	**Ongoing**	
4	**Seminar**	**Ongoing**	
5	**Assignment**	**Ongoing**	
6	**Portfolio**	**Ongoing**	
7	**Attendance**	**Ongoing**	
8	**Final (Theory + Practical)**	**Beginning of Week 6**	**60%**
9	**Total**	**100%**	

12. Student Academic Counseling and Support

a. The specified office hours of the course instructors , course coordinator &
b. co-coordinator are provided to the students before the start of the course for academic supervision, guidance and advice.
c. The academic advice and mentoring is two hours weekly. In addition to this mentors are accepting students inquiries and counsel them on daily basis d. Tutors of the course are available during the working hours and accepting students inquiries on daily basis

e. Department of medical education is accepting students inquiries counsel them on daily basis
f. Program coordinator is accepting students inquiries and counsel them on daily basis
g. Vice Dean for Academic Affairs is accepting students inquiries and counsel them on daily basis
h. Specialist services and programs targeted for individual students
i. Programs that provide special resources to support students experiencing difficulties in learning
j. Counseling and social networks
k. Financial aid advising and funding
l. Development of learning communities

13.Learning Resources and Facilities

11.1. Learning Resources:

Required Textbooks	a. Arthur Guyton Textbook of Medical Physiology by Arthur Guyton, Elsevier Saunders (2016) b. A Textbook of Practical Physiology by CL Ghai, Jaypee Brothers Medical Publishers (2013) c. Basic & Clinical Pharmacology, by Bertman G. Kazung, 13th edition d. Park's textbook of preventive and social medicine by K. Park, Banarsidas Bhanot Publishers (2011). e. Harpers Illustrated Biochemistry by Victor Rodwell, McGraw-Hill 2015 f. Basic HistologyText and Atlas by Mescher A L Janquiera's McGraw-Hill Education, 2016. g. Davidson's Principles and Practice of Medicine by Stanley Davidson 22nd Edition Churchill Livingstone 2014
Essential References	a. Arthur Guyton Textbook of Medical Physiology by Arthur

Materials	b. Guyton, Elsevier Saunders (2016) A Textbook of Practical Physiology by CL Ghai, c. Jaypee Brothers Medical Publishers (2013) d. Basic & Clinical Pharmacology, by Bertman G. Kazung, 13th edition Park's textbook of preventive and social medicine by K. Park, Banarsidas Bhanot Publishers (2011). e. Harpers Illustrated Biochemistry by Victor Rodwell, McGrawHill 2015
Electronic Materials	a. European Journal of Applied Physiology; ISSN: 1439-6319 b. (print version), ISSN: 1439-6327 c. Physiological reviews (American Physiological Society) Nature Reviews Molecular Cell Biology d. American Journal of Epidemiology e. Developmental Dynamics
Other Learning Materials	a. Smart board, computer/projector b. Power Lab

14. Student responsibility

Student must behave in a manner befitting the status as future physician
1. Student must attend the introductory session of the course. Instructions specific to the nature of the course. 2. Student must be professionally assertive, attentive and well prepared 3. Student should meet their mentor on weekly basis 4. Student evaluation form (to be provided as a link in Blackboard) done by the student at the end of each course

within 3 days after the closure of the course

5. Student feedback about the course in
   a. Large group (by course coordinator)
   b. Focus group (by MEU and Quality & Development Committee)

15.Intended Students

Students Names and TBL and PBL groups

No.	University No.	Student's name	Student Group
1.	440800249	Abdulaziz Faleh S Al	
2.	441800693	Abdulaziz Mohammed Abdullah Aldossary	
3.	441800751	Abdulkarim Saeed Abdullah Alshahrani	
4.	440800242	Abdullah Mohammed Z Alqarni	

5.	441800745	Abdullah Alhussein A Almonawar	
6.	441803072	Abdullah Mohammed M Elmarhby	
7.	441800743	Ali Masoud M Alqahtani	
8.	441804001	Ali Mohammad A Alasmari	
9.	441804888	Ali Yahya A Asiri	
10.	441803096	Aws Abdullah S Abualiat	
11.	441800733	Bader Saleh T Alqahtani	
12.	440805934	Basil Eid H Alosaimi	
13.	441800700	Emad Abdullah S Alshehri	
14.	441800724	Faisal Saeed H Alghamdi	
15.	440800274	Fayez Saeed J Alhazri Alaklabi	
16.	441800748	Hothefah Abdullah K Alghamdi	
17.	441800730	Khaled Amer M Alsairy	
18.	441800705	Mansour Abdullah S Alghamdi	
19.	441800688	Mohamed Abdelrahman Mohamed Alharthi	
20.	441800737	Mohamed Bin Abd Elaziz S Al Shahrani	
21.	440800284	Mohammad Ayedh M Alahmari	
22.	441803999	Mohammed Ahmed A Alshehri	
23.	441800706	Mohammed Falah M Albishi	
24.	441804693	Mohammed Sultan S Alqhtany	
25.	441800738	Mohammed Thafer M Al Shahrani	
26.	441803079	Mohammed Turki M Al Mawi	
27.	441803068	Muath Ayedh M Al Shahrani	
28.	441803679	Mubarak Abdullah M Alqahtani	
29.	441803064	Osamah Salem A Alqarni	
30.	441803095	Rayan Mahdi M Alawn	
31.	441804000	Ryan Mujahid M Al Zaher Alyami	

32.	441800735	Saeed Mansour Andous Alqahtani	
33.	441803704	Saleh Hadhir S Alharthi	
34.	438800027	Salih Obeed Ibrahim Aldhiban	
35.	440800247	Salman Abdualaziz M Algarni	
36.	440800251	Saud Bin Fhaid Bin M Alrimthe Alshahrani	
37.	440800264	Sultan Mohammed A Almugharrid	
38.	441803773	Talal Mohammed S Alqarni	
39.	441804541	Yahya Ahmed Yahya Alhanash	
40.	441803086	Ziyad Mohammed S Alqarni	
41.	441802776	Abeer Adel A Alshaer	

42.	441802777	Albatool Khaled M Alshahrani	
43.	441803797	Amal Fayez A Hmuman	
44.	441802740	Ameerah Muneef N Aldagani Alotaibi	
45.	441802706	Anwar Ali M Al Gusheri Alshehri	
46.	441802731	Atheer Hemaid S Al Zabin Alqarni	
47.	441804265	Bushra Saeed S Alshehri	
48.	441802748	Fatima Ali M Shehab	
49.	441802767	Fatima Hejab N Alsubaee	
50.	441802710	Fawziah Amer A Al Zhiean Aldosari	
51.	441802704	Huda Obayed S Alghamdi	
52.	441802741	Khawla Mohammad M Almunei Alaklobi	
53.	441802750	Lama Mashni A Alshmrany	
54.	441802773	Lamia Sayyaf Mobarak Almawi	
55.	441802772	Majd Abdullah M Alharthi	
56.	441804266	Manal Fahad Othman Almojamei Alsobeui	
57.	441802758	Mashael Sharf S Alshahrani	
58.	440802489	Masheal Obeid F Alhamdan Alsaadi	
59.	441802774	Mirnan Adel A Alghamdi	
60.	441802771	Monirah Ayed M Alqhidan	
61.	441802765	Norah Buti A Alshahrani	
62.	441802759	Nurah Khalid Abdullah Aldosari	
63.	441802766	Ragad Ahmed Y Megne Mkrsh Alamier	
64.	441802742	Rana Ali Mohammad Al Saefi Alqarni	
65.	441802760	Rawaan Haader D Al Zoher Alharthey	
66.	441803791	Raydaa Abdullah Saad Alshomrani	
67.	441803792	Renad Mohsean Ahmad Alkomysany	
68.	441802775	Salwa Saeed G Al Nahsy Alshahrani	
69.	441802770	Sarah Abdulalh S Aloqabi Albishi	
70.	441802778	Sarah Saeed Abdullah Khlaif Alghamdi	
71.	441802764	Sharifah Mohammed Abdulrahman Aldaubi	
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16. Study Guide Approval Date

Council / Committee	**Curriculum committee**
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